STATEMENT OF BASIS (AI No. 1007)

For draft Louisiana Pollutant Discharge Elimination System permit No. LA0049310 to discharge to waters of the State of Louisiana.

THE APPLICANT IS: The Dow Chemical Company

Grand Bayou Operations

Post Office Box 150 Plaquemine, Louisiana 70765-0150

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ISSUING OFFICE: Louisiana Department of Environmental Quality (LDEQ)

Office of Environmental Services

Post Office Box 4313

Baton Rouge, Louisiana 70821-4313

PREPARED BY: Sonja Loyd

Water Permits Division Phone #: (225) 219-3090 Email: sonja.loyd@la.gov

DATE PREPARED: May 1, 2006

1. PERMIT STATUS

A. Reason For Permit Action:

Proposed reissuance of a Louisiana Pollutant Discharge Elimination System (LPDES) permit for a 5-year term.

B. LPDES permit: Effective date - December 1, 1999

Expiration date - November 30, 2004

C. LPDES Multi-Sector General Permit – (LAR05N132)

Effective date – May 1, 2006 Issuance date – May 24, 2006 Expiration date – April 30, 2011

Outfalls 061, 062, and 063 are covered under the MSGP. These outfalls have been included for coverage under this draft permit. These outfalls have been redesignated as Outfalls 002, 003, and 004, respectively. The permittee will terminate coverage under the MSGP after reissuance of the final permit.

D. Date Application Received: A permit renewal application was received on May 28, 2004. An updated application which replaced the May 2004 application in its entirety was received on August 15, 2005. Supplemental information needed to complete the permit process was received on May 24, 2006 and July 25, 2006.

2. FACILITY INFORMATION

- A. LOCATION 875 Highway 70 in Belle Rose, Assumption Parish (Latitude 30°00'30", Longitude 91°06'40")
- B. FACILITY TYPE/ACTIVITY This permittee's facility is comprised of a brine production and hydrocarbon storage plant and an underground storage terminal (owned by Union Carbide Corporation). These two facilities are collectively known as the Grand Bayou Operations (GBO). The brine production plant is an existing facility that mines underground salt with well water to produce a saturated brine solution. The solution mining of salt is performed by pumping fresh water from a well into a salt

deposit. The surrounding salt is dissolved and the resulting brine is removed. This process creates caverns for hydrocarbon storage. The brine and hydrocarbons are piped to nearby Dow facilities in the state for distribution. The hydrocarbons stored at the facility include unrefined gasoline, naphtha, ethylene, propylene, and liquefied petroleum gas.

C. TECHNOLOGY BASIS - 40 CFR Chapter I, Subchapter N (Effluent Guidelines and Standards) Parts 401 and 405-471 have been adopted by reference at LAC 33:IX.4903.

Guideline N/A Reference N/A

Other sources of Technology-Based Limits:
Current LPDES permit (effective December 1, 1999)
Light Commercial Facilities General Permit (LAG480000)
Hydrostatic Test Wastewater General Permit (LAG670000)
Best Professional Judgment

D. FEE RATE

1. Fee Rating Facility Type: Minor

2. Complexity Type: IV
3. Wastewater Type: III

4. SIC Codes: 2819 and 2869

3. OUTFALL INFORMATION

Outfall 001

Discharge Type: Stormwater runoff, firewater, building air conditioner condensate, air compressor condensate, washdown wastewater (from wellheads and associated piping), potable water, exterior vehicle wastewater, and previously monitored effluent from Internal Outfalls 101 (treated sanitary wastewater) and 106 (hydrostatic test wastewater)

Treatment: Sedimentation

Location: At the point of discharge from the northeast corner of the fire water pond prior to combining with other waters (Latitude 30°00'20", Longitude 91°06'59")

Flow: 1.3 MGD

Discharge Route: Local drainage, thence to Grand Bayou

Internal Outfall 101

Discharge Type: Treated sanitary wastewater (from the Administration Building at Union Carbide Corporation)

Treatment: Mechanical Plant and Chlorination

Location: At the point of discharge from the treatment plant located in the northern area of Union Carbide near the control room prior to combining with the effluent of Outfall 001 (Latitude 30°00'37'', Longitude 91°06'56")

Flow: 0.0001 MGD

Discharge Route: Combines with the effluent of Outfall 001

Outfall 002

Discharge Type: Stormwater runoff, building air conditioner condensate, well water, potable water, washdown wastewater (from wellheads and associated piping), and previously monitored effluent from Internal Outfall 106 (hydrostatic test wastewater) Treatment: None

Location: At the point of discharge located 150 feet northwest of the Grace 1 mining well prior to combining with other waters (Latitude 30°00'43", Longitude 91°06'41")

Flow: 1.7 MGD

Discharge Route: Local drainage, thence to Bayou Oliver, thence to Grand Bayou

Outfall 003

Discharge Type: Stormwater runoff, firewater, building air conditioner condensate, well water, potable water, washdown wastewater (from wellheads and associated piping), and previously monitored effluent from Internal Outfall 106 (hydrostatic test wastewater)

Treatment: None

Location: At the point of discharge located south of Well 9/9A next to the analyzer building prior to combining with other waters (Latitude 30°00'31", Longitude 91°07'08") Flow: 0.13 MGD

Discharge Route: Local drainage, thence to Grand Bayou

Outfall 004

Discharge Type: Stormwater runoff, firewater, building air conditioner condensate, well water, potable water, air compressor condensate, exterior vehicle wastewater, washdown wastewater (from wellheads and associated piping), and previously monitored effluent from Internal Outfalls 104 (treated sanitary wastewater), 204 (treated sanitary wastewater) and 106 (hydrostatic test wastewater)

Treatment: None

Location: At the point of discharge located 600 feet directly west of pump P-34 in the south field prior to combining with other waters (Latitude 30°00'25", Longitude 91°06'56")

Flow: 0.27 MGD

Discharge Route: Local drainage, thence to Grand Bayou

Internal Outfall 104

Discharge Type: Treated sanitary wastewater (from the Administration Building at the Grand Bayou Operations)

Treatment: Mechanical Plant and Chlorination

Location: At the point of discharge from the treatment plant located in the southern area of the Brine Production Plant near the control room and laboratory prior to combining with the effluent of Outfall 004 (Latitude 30°00'28", Longitude 91°06'38")

Flow: 0.00024 MGD

Discharge Route: Combines with the effluent of Outfall 004

Internal Outfall 204

Discharge Type: Treated sanitary wastewater (from the Security Building at the Grand

Bayou Operations)

Treatment: Mechanical Plant and Chlorination

Location: At the point of discharge from the treatment plant located in the southern area of the Brine Production Plant near the security building prior to combining with the effluent of Outfall 004 (Latitude 30°00'30", Longitude 91°06'40")

Flow: 0.00008 MGD

Discharge Route: Combines with the effluent of Outfall 004

Internal Outfall 106

Discharge Type: Hydrostatic test wastewater

Treatment: None

Location: At the point of discharge from the vessel or pipeline being tested. May be

discharged through any external outfall.

Flow: De minimis

Discharge Route: Combines with the effluent from any of the external outfalls designated

above.

4. RECEIVING WATERS

STREAM - Grand Bayou via local drainage and/or Bayou Oliver

BASIN AND SEGMENT - Terrebonne Basin, Subsegment No. 120206

DESIGNATED USES - a. primary contact recreation

b. secondary contact recreation

c. fish and wildlife propagation

5. CURRENT EFFLUENT LIMITATIONS

See APPENDIX A – LPDES permit limits

6. PROPOSED CHANGES

- A. In February 2001, this Office was notified that the permittee's name was changed from Ucar Pipeline Incorporated to The Dow Chemical Company.
- B. The permittee requested an effective date extension of sixty days since the new provisions in the permit represent a significant change in the level of effort that must be expended to meet the requirements of the permit. Specifically, the permittee anticipates having to revise operating procedures, provide additional operator training, and possibly modify the existing outfall configurations. The permittee's request has been granted by this Office.

- C. The permittee currently operates two facilities that are comprised of a brine production and hydrocarbon storage plant and underground storage terminal (owned by Union Carbide Corporation) which are covered under LPDES permits LAR05N132 and LA0049310, respectively. The permittee has requested that both facilities be regulated under the current individual LPDES permit. The permittee will terminate coverage under LPDES Multi-Sector General Permit LAR05N132 after reissuance of the final permit.
- D. The primary Standard Industrial Classification (SIC) Code has been changed from 4619 to 2819 to coincide with the change in the facility's operations. The complexity designation has been changed from III to IV.

E. Outfall 001

The description of wastestreams has been modified to include firewater, building air conditioner condensate, air compressor condensate, exterior vehicle wastewater, washdown wastewater (from wellheads), potable water, and previously monitored effluent from Internal Outfalls 101 (treated sanitary wastewater) and 106 (hydrostatic test wastewater).

No soaps and/or detergents will be used during the truck rinsing activities.

Due to the additional wastestreams being monitored at this outfall, the monitoring frequency for the existing parameters has been changed to reflect once per month instead of once per quarter.

A reporting requirement for TSS has been added to the draft permit to gather data for TMDL development. The monitoring frequency will be once per quarter using a grab sample.

A reporting requirement for Total Arsenic and Total Selenium has been added to this outfall for data gathering purposes based on the permittee's submittal of analytical data in its May 2006 and July 2006 Application Addenda indicating the presence of these pollutants in concentrations which exceed the minimum quanitification level (MQL). During a meeting in June 2006, personnel from the facility indicated that they believe these pollutants to be absent since no manufacturing activities are performed at the site which could impact this discharge. A Part II provision has been added to the draft permit which allows the permittee to discontinue monitoring for these pollutants after submitting one year of sample data (twelve consecutive samples) which reflect concentrations at or below the MQL. The permittee shall notify this Office in writing within two weeks after satisfying this requirement. The permittee shall include a statement in the comments section on the first DMR submitted following fulfillment of this provision indicating that the requirement to submit one year of sample data (twelve consecutive samples) at or below the MQL for these pollutants has been satisfied. The monitoring frequency for these pollutants will be once per month using a grab sample.

F. Internal Outfall 101

This internal outfall for treated sanitary wastewater has been added to the draft permit. The effluent limits and monitoring requirements established at this internal outfall are consistent with the Light Commercial Facilities General Permit (LAG480000). The monitoring frequency is once per six months using a grab sample. This internal outfall combines with the effluent of Outfall 001.

G. Outfalls 002, 003, and 004

These outfalls are covered under the MSGP for the brine production plant and hydrocarbon storage area. However, the permittee has requested that these outfalls be added to the draft permit since the brine production and hydrocarbon storage plant along with the underground storage terminal are being operated collectively as one facility (the Grand Bayou Operations). Based on information from the permittee's application, the wastestream description for these outfalls is comparable to the new outfall description for Outfall 001. Therefore, the effluent limits and monitoring requirements established at these outfalls are consistent with the requirements of Outfall 001 by BPJ based on similar outfalls.

A reporting requirement for Total Arsenic and Total Selenium has been added to Outfalls 002 and 004 for data gathering purposes based on the permittee's submittal of analytical data in its May 2006 and July 2006 Application Addenda indicating the presence of these pollutants in concentrations which exceed the minimum quanitification level (MQL). A reporting requirement for only Total Selenium has been established at Outfall 003 since Total Arsenic was reported as not detected at this outfall. During a meeting in June 2006, personnel from the facility indicated that they believe these pollutants to be absent since no manufacturing activities are performed at the site which could impact these discharges. A Part II provision has been added to the draft permit which allows the permittee to discontinue monitoring for these pollutants after submitting one year of sample data (twelve consecutive samples) which reflect concentrations at or below the MQL. The permittee shall notify this Office in writing within two weeks after satisfying this requirement. The permittee shall include a statement in the comments section on the first DMR submitted following fulfillment of this provision indicating that the requirement to submit one year of sample data (twelve consecutive samples) at or below the MQL for these pollutants has been satisfied. The monitoring frequency for these pollutants will be once per month using a grab sample.

For Outfall 004 - No soaps and/or detergents will be used during the truck rinsing activities.

A reporting requirement for TSS has been added to the draft permit to gather data for TMDL development. The monitoring frequency will be once per quarter using a grab sample.

Well water and stormwater are stored in the GBO T-20 Tank. Water from the T-20 Tank is used in the brine production operations and wellhead areas. Water is recycled back into the tank from the wellhead areas or discharged to Outfalls 002, 003, and 004.

H. Internal Outfalls 104 and 204

These internal outfalls for treated sanitary wastewater have been added to the draft permit. The effluent limits and monitoring requirements established at these internal outfalls are consistent with the Light Commercial Facilities General Permit (LAG480000). The monitoring frequency is once per six months using a grab sample. These internal outfalls combine with the effluent of Outfall 004.

[NOTE: Internal Outfall 105 (renamed Internal Outfall 204 in the draft permit) is currently covered under a Class I Sanitary Discharge General Permit (LAG532013)

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issued on April 20, 2006. This general permit will be terminated in its entirety upon issuance of the final permit.]

I. Internal Outfall 106

This internal outfall for hydrostatic test wastewater has been added to the draft permit. The effluent limits and monitoring requirements established at this internal outfall are consistent with the Hydrostatic Test Wastewater General Permit (LAG670000). The monitoring frequency is once per event using a grab sample. This wastewater can be discharged through any external outfall.

- J. The facility discharges to a Water Quality Act 303(d) stream. Therefore, a reopener clause has been added to Part II of the permit in the event that the permit requires reassessment regarding 303(d) status resulting in incorporation of the results of any Total maximum Daily Loading (TMDL) allocation for the receiving water body.
- K. Updated Part II conditions for stormwater discharges associated with industrial activities have been established in the draft permit.

7. PROPOSED EFFLUENT LIMITS

Outfall 001 - Stormwater runoff, firewater, building air conditioner condensate, air compressor condensate, washdown wastewater (from wellheads and associated piping), potable water, exterior vehicle wastewater, and previously monitored effluent from Internal Outfalls 101 (treated sanitary wastewater) and 106 (hydrostatic test wastewater)

EFFLUENT CHARACTERISTIC	MONTHLY AVERAGE	DAILY MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE	REFERENCE
Flow-MGD	Report	Report	1/month	Estimate	BPJ; Current LPDES permit
TOC		50 mg/L	1/month	Grab	BPJ; Current LPDES permit
Oil and Grease		15 mg/L	1/month	Grab	BPJ; Current LPDES permit
TSS		Report (mg/L)	1/quarter	Grab	BPJ; TMDL
Chloride	***	500 mg/L	1/month	Grab	BPJ; Current LPDES permit
Total Arsenic		Report (mg/L)	1/month	Grab	BPJ; Analytical Data
Totał Selenium		Report (mg/L)	1/month	Grab	BPJ; Analytical Data
pH	6.0 S.U. (Min.)	9.0 S.U. (Max.)	1/month	Grab	BPJ; Current LPDES permit

(*1) When discharging.

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Outfall 002 - Stormwater runoff, building air conditioner condensate, well water, potable water, washdown wastewater (from wellheads and associated piping), and previously monitored effluent from Internal Outfall 106 (hydrostatic test wastewater)

EFFLUENT CHARACTERISTIC	MONTHLY AVERAGE	DAILY MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE	REFERENCE
Flow-MGD	Report	Report	1/month	Estimate	BPJ; Current LPDES permit
TOC		50 mg/L	1/month	Grab	BPJ; Current LPDES permit
Oil and Grease		15 mg/L	1/month	Grab	BPJ; Current LPDES permit
TSS		Report (mg/L)	1/quarter	Grab	BPJ; TMDL
Chloride		500 mg/L	1/month	Grab	BPJ; Current LPDES permit
Total Arsenic		Report (mg/L)	1/month	Grab	BPJ; Analytical Data
Total Selenium		Report (mg/L)	1/month	Grab	BPJ; Analytical Data
pH	6.0 S.U. (Min.)	9.0 S.U. (Max.)	1/month	Grab	BPJ; Current LPDES permit

(*1) When discharging.

Outfall 003 - Stormwater runoff, firewater, building air conditioner condensate, well water, potable water, washdown wastewater (from wellheads and associated piping), and previously monitored effluent from Internal Outfall 106 (hydrostatic test wastewater)

EFFLUENT CHARACTERISTIC	MONTHLY AVERAGE	DAILY MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE	REFERENCE
Flow-MGD	Report	Report	1/month	Estimate	BPJ; Current LPDES permit
TOC		50 mg/L	1/month	Grab	BPJ; Current LPDES permit
Oil and Grease		15 mg/L	1/month	Grab	BPJ; Current LPDES permit
TSS		Report (mg/L)	1/quarter	Grab	BPJ; TMDL
Chloride		500 mg/L	1/month	Grab	BPJ; Current LPDES permit
Total Selenium		Report (mg/L)	1/month	Grab	BPJ; Analytical Data
pН	6.0 S.U. (Min.)	9.0 S.U. (Max.)	1/month	Grab	BPJ; Current LPDES permit

(*1) When discharging.

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Outfall 004 - Stormwater runoff, firewater, building air conditioner condensate, well water, potable water, air compressor condensate, exterior vehicle wastewater, washdown wastewater (from wellheads and associated piping), and previously monitored effluent from Internal Outfalls 104 (treated sanitary wastewater), 204 (treated sanitary wastewater) and 106 (hydrostatic test wastewater)

EFFLUENT CHARACTERISTIC	MONTHLY AVERAGE	DAILY MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE	REFERENCE
Flow-MGD	Report	Report	1/month	Estimate	BPJ; Current LPDES permit
TOC		50 mg/L	1/month	Grab	BPJ; Current LPDES permit
Oil and Grease		15 mg/L	1/month	Grab	BPJ; Current LPDES permit
TSS		Report (mg/L)	1/quarter	Grab	BPJ; TMDL
Chloride		500 mg/L	1/month	Grab	BPJ; Current LPDES permit
Total Arsenic		Report (mg/L)	1/month	Grab	BPJ; Analytical Data
Total Selenium	***	Report (mg/L)	1/month	Grab	BPJ; Analytical Data
pН	6.0 S.U. (Min.)	9.0 S.U. (Max.)	1/month	Grab	BPJ; Current LPDES permit

(*1) When discharging.

Internal Outfalls 101, 104, and 204 - Treated sanitary wastewater

EFFLUENT CHARACTERISTIC	MONTHLY AVERAGE	WEEKLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE	REFERENCE
Flow-MGD	Report	Report	1/6 months	Estimate	BPJ; LAG480000
BOD ₅		45 mg/L	1/6 months	Grab	BPJ; LAG480000
TSS		45 mg/L	1/6 months	Grab	BPJ; LAG480000
Fecal Coliform		400 COL/100 ml	1/6 months	Grab	BPJ; LAG480000

<u>Internal Outfall 106</u> – Hydrostatic test wastewater

EFFLUENT CHARACTERISTIC	MONTHLY AVERAGE	DAILY MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE	REFERENCE
Flow-MGD	Report	Report	1/event	Estimate	BPJ; LAG670000
TSS	***	90 mg/L	1/event	Grab	BPJ; LAG670000
Oil and Grease		15 mg/L	1/event	Grab	BPJ; LAG670000

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EFFLUENT CHARACTERISTIC	MONTHLY AVERAGE	DAILY MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE	REFERENCE
TOC		50 mg/L	1/event	Grab	BPJ; LAG670000
Benzene		50 μg/L	1/event	Grab	BPJ; LAG670000
Total BTEX		250 μg/L	1/event	Grab	BPJ; LAG670000
Lead		50 μg/L	1/event	Grab	BPJ; LAG670000

^(*1) When discharging.

8. COMPLIANCE HISTORY/COMMENTS

- A. CONSOLIDATED COMPLIANCE ORDER & NOTICE OF POTENTIAL PENALTY WE-CN-02-0258 was issued to this permittee on April 19, 2002, for the unauthorized discharge of brine. On or about July 24, 2003, Dow Chemical USA, Louisiana Operations entered into a Settlement Agreement with LDEQ which covered water, air, and/or hazardous waste compliance actions issued to the Grand Bayou Operations and the Louisiana Operations.
- B. The most recent inspection was performed on at this facility on February 9, 2006. No areas of concern were noted during the course of the inspection.
- C. A review of the monitoring reports submitted in accordance with LPDES permit LA0049310 for the monitoring period of June 2003 through September 2006 revealed that there were no effluent violations.

A review of the monitoring reports submitted in accordance with LPDES permit LAR05N132 for the monitoring period of May 2001 through April 2006 revealed that there were no violations. [NOTE: The April 2003 DMR for Outfall 063 and the May 2002- April 2003 Annual DMR for Outfall 062 could not be located in the main files. The annual DMR for Outfall 062 was submitted for the monitoring period of May 2004 – April 2005; however, the monitoring period recorded on the DMR for this outfall was inaccurate. Specifically, the monitoring period of May 2002 – April 2003 was recorded on this DMR.]

9. TMDL STATUS

Subsegment No. 120206 of the Terrebonne Basin is listed on the 2004 Final Integrated 303(d) List as impaired for organic enrichment/low Dissolved Oxygen (DO), pathogen indicators, and suspended solids. To date, no Total Maximum Daily Loading (TMDL) assessments have been completed for this waterbody. The TMDL assessments for this subsegment are scheduled for completion in 2007-2008. Based on a review of the analytical data, it was determined that the permittee does have the potential to contribute to organic enrichment/low DO, pathogen indicators, and suspended solids. Effluent limits and/or reporting requirements for BOD₅, TSS, and Fecal Coliform have been established in the draft permit to ensure that the integrity of the waterbody is maintained.

10. ENDANGERED SPECIES

The receiving waterbody, Subsegment No. 120206 of the Terrebonne Basin, is not listed in Section II.2 of the Implementation Strategy as requiring consultation with the U.S. Fish and Wildlife Service (FWS). This strategy was submitted with a letter dated September 29, 2006, from Watson (FWS) to Brown (LDEQ). Therefore, in accordance with the Memorandum of Understanding between the LDEQ and the FWS, no further informal consultation (Section 7, Endangered Species Act) is required. It was determined that the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as an aquatic habitat.

11. HISTORIC SITES

The discharge is from an existing facility location, which does not include an expansion on undisturbed soils. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.

12. TENTATIVE DETERMINATION

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to reissue a permit for discharges described in the application.

13. STORMWATER POLLUTION PREVENTION PLAN (SWPPP) REQUIREMENT

In accordance with LAC 33:IX.2707.I.3 and 4 [40 CFR 122.44(I)(.3) and (4)], a Part II condition is proposed for applicability to all stormwater discharges from the facility, either through permitted outfalls or through outfalls which are not listed in the permit or as sheet flow. The Part II condition requires a Storm Water Pollution Prevention Plan (SWP3) within six (6) months of the effective date of the final permit, along with other requirements. If the permittee maintains other plans that contain duplicative information, that plan could be incorporated by reference into the SWP3. Examples of these type plans include, but are not limited to: Spill Prevention Control and Countermeasure Plan (SPCC), Best Management Plan (BMP), Response Plans, etc. The conditions will be found in the draft permit. Including Best Management Practice (BMP) controls in the form of a SWP3 is consistent with other LPDES and EPA permits regulating similar discharges of storm water associated with industrial activity, as defined at LAC 33:IX.2511.B.14 [(40 CFR 122.26(b)(14)].

14. PUBLIC NOTICES

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the proposed issuance of LPDES individual permits and may request a public hearing to clarify issues involved. This Office's address is on the first page of the statement of basis. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

Local newspaper(s) of general circulation

Office of Environmental Services Public Notice Mailing List